

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) ~~Method of generating Packet Arrival Timestamps (PAT) of a received real time sequence of information signal packets (TS packet) comprising A/V information, such as MPEG2 Transport Stream packets, the serial sequence comprising at intervals of multiple information signal packets, Program Clock Reference (PCR) information for locking a local System Time Counter (STC) with the Program Clock Reference (PCR) information, the~~ A method comprising:
 - determining ~~the~~ a packet arrival time of each packet of a received sequence of information signal packets (TS packet) comprising A/V information using a packet arrival time counter derived from the a local System Time Counter (STC), the received sequence including, at intervals of multiple information signal packets, Program Clock Reference (PCR) information that facilitates locking the local System Time Counter (STC) with the Program Clock Reference (PCR) information, and
 - appending a corresponding Packet Arrival Timestamp (PAT) corresponding to the packet arrival time to each packet, received information signal packets, characterized by
 - setting the packet arrival time counter at an ~~arbitrary~~ initial value before receiving a first information signal packet,
 - ~~temporally storing the~~ determining a first Packet Arrival Timestamp (PAT) of the first information signal packet of the sequence and a second Packet Arrival Timestamp (PAT) of the a first information signal packet comprising that includes a Program Clock Reference (PCR) value information,
 - determining ~~the~~ a number of counts of the local System Time Clock Counter (STC) between said ~~the first and the second~~ the first and the second Packet Arrival Timestamps (PAT), and

determining a System Time Counter start value (STC-start) by subtracting this the number of counts from the Program Clock Reference (PCR) value to retrieve a System Time Counter start value (STC-start).

2. (Currently amended) ~~Method according to~~ The method of claim 1, wherein including

storing the received information signal packets with the appended Packet Arrival Time Stamps (PAT) are stored on a recording medium, wherein, in addition and

storing the System Time Counter start value (STC-start) is stored as an attribute of the stored received information signal packets with the appended Packet Arrival Time Stamps (PAT) sequence.

3. (Currently amended) ~~Method of reproducing a stored real time sequence of information signal packets (TS) comprising A/V information, such as MPEG2 Transport Stream Packets, obtained with the method according to claim 1, the A method comprising~~

running a packet arrival time counter derived from a local System Time Counter (STC),

locking the local System Time Counter (STC) to retrieved Program Clock Reference (PCR) information,

retrieving information signal packets and their corresponding Packet Arrival Timestamps (PAT) from a storage medium,

~~temporarily~~ storing a number of retrieved information signal packets,

outputting an information signal packet when the corresponding Packet Arrival Timestamp (PAT) coincides with the packet arrival time counter, ~~characterised by,~~

retrieving ~~the a~~ a System Time Counter start value (STC-start) from the storage medium, and

setting the System Time Counter (STC) with the retrieved System Time Counter start value (STC-start).

4. (Currently amended) ~~Method according to~~ The method of claim 3, characterised by, including inserting Program Clock Reference (PCR) information corresponding to the System Time Counter start value (STC-start).

5. (Currently amended) ~~Method of reproducing two concatenated sequences of stored real time information signal packets (TS) comprising A/V information, the sequences obtained with the method according to claim 1, wherein a discontinuity in the Packet Arrival Timestamps (PAT) of the two sequences exists at a connection point, no overlap exists between Packet Arrival Timestamps of the two sequences and the decoded corresponding information signal packets are to be presented seamlessly, the~~ A method comprising

running a presentation time counter derived from a local System Time Counter (STC),

locking the local System Time Counter (STC) to retrieved Program Clock Reference (PCR) information corresponding to either the a first sequence or the a second sequence of information signal packets (TS) comprising A/V information,

retrieving ~~packet~~ information signal packets and their corresponding Presentation Timestamps (PTS) from a storage medium,

~~temporarily~~ storing a number of retrieved signal information packets,
presenting an information signal packet when the corresponding Presentation Timestamp (PTS) coincides with the presentation time counter, ~~the method further characterised by,~~

subtracting ~~the a~~ System Time Counter start value (STC-start-2) of the second sequence from ~~the a~~ value of the Presentation Timestamp (PTS) of ~~the a~~ first information signal packet of the ~~subsequent~~ second sequence, and

~~determine the instant setting~~ the local System Time Counter (STC) should be set to the value of the System Time Counter start value (STC-start-2).

6. (Omitted in original filing)

7. (Currently amended) Apparatus for recording a real time sequence of information signal packets (TS packet) comprising A/V information, ~~such as MPEG2 Transport Stream Packets~~, on a record carrier, the serial sequence comprising at intervals of multiple information signal packets, Program Clock Reference (PCR) information for locking a local System Time Counter (STC) with the Program Clock Reference (PCR) information, the apparatus comprising

receiving means for receiving the information signal packets,

time stamp generating means for generating a time stamp corresponding to an arrival time of the information signal packets,

writing means for recording the generated time stamps and information signal packets on the record carrier, the time stamp generating means provided with a system time counter locked to the received program clock reference (PCR)

information, ~~the apparatus characterized in that,~~ wherein

the time stamp generating means are adapted to generate time stamps according to the method of claim 1.

8. (Currently amended) Apparatus for reproducing a real time sequence of information signal packets (TS packet) comprising A/V information, ~~such as MPEG2 Transport Stream Packets~~, recorded on a record carrier ~~with the method according to claim 1~~, the apparatus comprising

reading means for reading the information signal packets recorded on the record carrier,

storing means for temporarily storing a number of information signal packets read from the record carrier,

time stamp generation means comprising a Packet Arrival Time counter derived from a local System Time Counter (STC),

comparator means for comparing a stored time stamp of an information signal packet with the generated Packet Arrival Time value,

outputting an information signal packet from the storing means when a Packet Arrival Time Counter value coincides with the corresponding time stamp, characterized in that,

the time stamp generating means are adapted to generate a Packet Arrival Time according to the method of claim 3.

9. (Currently amended) Method of storing a real time sequence of information signal packets comprising A/V information, ~~such as MPEG 2 Transport Stream Packets~~, on a record carrier, the sequence comprising Program Clock Reference (PCR) information for locking a local System Time Counter (STC), Presentation Time Stamp (PTS) information for determining the presentation time of the information comprised in the information signal packets, Decoding Time Stamp (DTS) information for determining the decoding time of the information comprised in the information signal packets, and Packet Identification (PID) mapping information, the method comprising:

adding mark points at specific entry points in the sequence, ~~such as I-frames in MPEG2, characterised by,~~

~~storing in addition to a~~ the mark point and one or more of the following information entities: Program Clock Reference (PCR) information, Presentation Time Stamp (PTS) information, Decoding Time Stamp (DTS) information, and Packet Identification (PID) mapping information.

10. (New) The method of claim 9, wherein the entry points include I-frames in an MPEG sequence of encoded frames.

11. (New) The method of claim 1, wherein the received sequence corresponds to a sequence of MPEG encoded frames.

12. (New) The method of claim 3, wherein the received sequence corresponds to a sequence of MPEG encoded frames.

13. (New) A system comprising:

- a receiver that is configured to receive a sequence of information signal packets, the received sequence including, at intervals of multiple signal packets, program clock reference information,

- a timestamp generator that is configured to provide a packet arrival timestamp corresponding to each information signal packet,

- a combiner that is configured to append the packet arrival timestamp to each corresponding information signal packet, and

- a packet detector that is configured to detect a program clock reference value in a clock referencing information signal packet that includes program clock reference information,

- wherein

- the timestamp generator is configured to provide a system time start value based on the program clock reference value and a time difference between the clock referencing information signal packet and an initial information signal packet, and

- the combiner is configured to associate the system start time with the sequence of information packets.

14. (New) The system of claim 13, including

- a writer that is configured to write the sequence of information packets with appended packet arrival timestamps and associated system start time to a recording medium.

15. (New) The system of claim 14, wherein

- the sequence of information packets correspond to a sequence of MPEG-encoded packets, and

- the system start time is recorded as a segment attribute.

16. (New) The system of claim 13, wherein
the timestamp generator includes
an oscillator,
a system counter, operably coupled to the oscillator, that is configured to provide a local clock reference,
a phase detector that is configured to control an output of the oscillator based on a comparison of the local clock reference to the program clock reference value, and
a packet timestamp generator, operably coupled to the output of the oscillator, that is configured to provide the packet arrival timestamps.

17. (New) A system comprising:
a reader that is configured to read a sequence of information packets and an associated system start time, each packet of the sequence of information packets including a corresponding packet arrival timestamp, and select packets including a program clock reference value,
a buffer that is configured to store the sequence of information packets, and
a controller that is configured to control an output of the buffer to provide the sequence of information packets in a time sequence that is dependent upon the system start time and the packet arrival timestamps.

18. (New) The system of claim 17, including
a timestamp generator that is configured to provide a local timestamp for each information packet based on the system start time,
wherein,
the controller is configured to provide the output of the buffer based on a comparison of the local timestamp and the packet arrival timestamp of each information packet.

19. (New) The system of claim 18, including
a demultiplexer, operably coupled to the controller and the timestamp generator, that is configured to extract the system start time, the program clock reference value, and the packet arrival timestamps from the sequence of information packets.

20. (New) The system of claim 18, wherein
the timestamp generator includes
an oscillator,
a system counter, operably coupled to the oscillator, that is configured to provide a local clock reference,
a phase detector that is configured to control an output of the oscillator based on a comparison of the local clock reference to the program clock reference value, and
a packet timestamp generator, operably coupled to the output of the oscillator, that is configured to provide the local timestamps,
wherein
the controller is configured to set the system counter to an initial value corresponding to the system start time.

21. (New) The method of claim 5, wherein the first and second sequences correspond to sequences of MPEG-encoded frames.